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EXAMINER

WEINTROP, ADAM S

ART UNIT

PAPER NUMBER

2109

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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3 MONTHS

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/631,264	SHAH ET AL.	
	Examiner	Art Unit	
	Adam S. Weintrop	2109	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-32 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-32 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

1. **Claims 2-32** are objected to because of the following informalities:

Regarding **claims 2-12**, the phrase "A framework" recited in claim line 1 should be replaced with -- The framework -- to establish proper antecedent basis.

Regarding **claim 2**, the term "sync runtime module" on claim line 2 should be replaced with -- the sync runtime module -- since it has already been defined.

Regarding **claim 3**, the term "a knowledge" on claim line 3 is unclear and it is suggested that it be replaced with -- a second knowledge -- to clarify the claim limitations.

Regarding **claim 4**, the term "the knowledge" on claim line 3 is unclear and it is suggested that it be replaced with -- the second knowledge -- to clarify the claim limitations.

Regarding **claim 5**, the term "the knowledge" on claim lines 2-3 is unclear and it is suggested that it be replaced with -- the second knowledge -- to clarify the claim limitations. Also, the phrase "a change" on claim line 3 is unclear and should be replaced with -- a second change -- to clarify the claim limitations --.

Regarding **claim 9**, the phrases "the changes" on claim lines 7 and 8 should be replaced with -- changes --, as they have not been defined in the claims previously.

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Regarding **claim 10**, the phrase "item lds" on claim line 3 should be replaced with -- second item lds -- and the phrase "item lds" on claim line 4 should be replaced with -- first item lds --. This clarifies the claim limitations.

Regarding **claim 13**, the terms "a knowledge" on claim line 7 are unclear and it is suggested that they be replaced with -- a first knowledge --, and -- a second knowledge --, respectively, to clarify the claim limitations. The term "the knowledge" on claim line 10 should be replaced with -- the second knowledge -- and the term "the knowledge" on claim line 11 should be replaced with -- the first knowledge --.

Regarding **claims 14-22**, the phrase "A method" recited in claim line 1 should be replaced with -- The method -- to establish proper antecedent basis.

Regarding **claim 14**, the term "a particular adapter" on claim line 1 has already been defined and needs to be replaced with -- the particular adapter --. The term "one or more parameters" on claim line 2 should be replaced with -- the one or more parameters" and the term "a sync profile" has already been defined on claim line 2 and should be replaced with -- the sync profile --.

Regarding **claim 15**, the term "a particular adapter" on claim line 4 has already been defined and needs to be replaced with -- the particular adapter --. The terms "a source" and "a destination" on claim line 6 are unclear and it is suggested that they be replaced with -- a second source --, and -- a second destination --, respectively, to clarify the claim limitations.

Regarding **claim 16**, the terms "a knowledge" on claim lines 2-3 are unclear and it is suggested that they be replaced with -- a first knowledge --, and -- a second

knowledge --, respectively, to clarify the claim limitations. The term "a request" on claim lines 3-4 has already been defined and should be replaced with -- the request --.

Regarding **claim 17**, the term "a request" on claim line 1 has already been defined and should be replaced with -- the request --. The term "a service" on claim lines 1-2 has been defined and should be replaced with -- the service --. Also, the term "a sync runtime" on claim line 2 has already been defined and should be replaced with - the sync runtime --.

Regarding **claim 19**, the phrases "an item ID" on claim line 2 should be replaced with -- a first item ID -- and -- a second item ID --, respectively. The phrase "the item ID" on claim line 3 should be replaced with -- the second item ID --, and the phrase "the item ID" on claim line 4 should be replaced with -- the second item ID --. . This clarifies the claim limitations.

Regarding **claim 21**, the terms "the knowledge" on claim lines 2-3 are unclear and it is suggested that they be replaced with -- the first knowledge --, and -- the second knowledge --, respectively, to clarify the claim limitations.

Regarding **claim 23**, the terms "a knowledge" on claim lines 10-11 are unclear and it is suggested that they be replaced with -- a first knowledge --, and -- a second knowledge --, respectively, to clarify the claim limitations. The term "the knowledge" on claim line 13 should be replaced with -- the second knowledge -- and the term "the knowledge" on claim line 14 should be replaced with -- the first knowledge --.

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Regarding **claims 24-32**, the phrase "A computer program product" recited in claim line 1 should be replaced with -- The computer program product -- to establish proper antecedent basis.

Regarding **claim 24**, the term "a particular adapter" on claim lines 1-2 has already been defined and needs to be replaced with -- the particular adapter --. The term "one or more parameters" on claim line 2 should be replaced with -- the one or more parameters" and the term "a sync profile" has already been defined on claim line 2 and should be replaced with -- the sync profile --.

Regarding **claim 25**, the term "a particular adapter" on claim line 4 has already been defined and needs to be replaced with -- the particular adapter --. The terms "a source" and "a destination" on claim line 6 are unclear and it is suggested that they be replaced with -- a second source --, and -- a second destination --, respectively, to clarify the claim limitations.

Regarding **claim 26**, the terms "a knowledge" on claim line 3 are unclear and it is suggested that they be replaced with -- a first knowledge --, and -- a second knowledge --, respectively, to clarify the claim limitations. The term "a request" on claim line 4 has already been defined and should be replaced with -- the request --.

Regarding **claim 27**, the term "a request" on claim lines 1-2 has already been defined and should be replaced with -- the request --. The term "a service" on claim line 2 has been defined and should be replaced with -- the service --. Also, the term "a sync runtime" on claim line 2 has already been defined and should be replaced with -- the sync runtime --.

Regarding **claim 29**, the phrases "an item ID" on claim lines 2-3 should be replaced with -- a first item ID -- and -- a second item ID --, respectively. The phrase "the item ID" on claim line 3 should be replaced with -- the second item ID --, and the phrase "the item ID" on claim line 4 should be replaced with -- the second item ID --. . This clarifies the claim limitations.

Regarding **claim 31**, the terms "the knowledge" on claim line 3 are unclear and it is suggested that they be replaced with -- the first knowledge --, and -- the second knowledge --, respectively, to clarify the claim limitations.

Appropriate correction is required.

Claim Rejections - 35 USC § 101

2. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-10, 13-17, 19-21, and 23-32 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Regarding **claim 1-10**, the independent claim is directed towards a framework for synchronizing replicas. The claim can be interpreted as software, per se. The independent claim lacks limitations that would restrict the invention to a tangible medium. In order for a claim to be statutory, the claim must be in a statutory category of invention, such as a machine, a method, a manufacture, or a composition of matter.

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Software is simply non-functional descriptive material and is deemed non-statutory.

The dependent claims 2-10 are rejected for the same.

Regarding **claims 13-17, 19-21, 23-27, and 29-31**, the independent claims are directed towards a method or a computer product for carrying out the method of synchronizing replicas which includes initiating adapters, receiving requests, and detecting conflicts. These steps do not result in a "real world" outcome and lack tangible output such as storing, or displaying to a user. In order for a claim to be statutory, the claim must result in a useful, concrete, and tangible output. The dependent claims 14-17, 19-21, 24-27, and 29-31 are rejected for the same.

Regarding **claims 23-32**, the claims are drawn towards a computer program product that includes a computer-readable medium having executable instructions. According to the specification, this embodies wireless communications, as described in section 043. Carrier waves or any other form of wireless transmissions are not included in a statutory category of invention since they fall in the realm of abstraction and are not tangibly embodied. Therefore, the claims are rejected.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. **Claims 1-32** are rejected under 35 U.S.C. 102(b) as being anticipated by Alam et al. (US 6,324,544 B1).

Regarding **claim 1**, Alam et al. anticipates a framework for synchronizing one or more replicas in a sync community (Abstract), the framework comprising: a sync runtime module that provides services to one or more sync adapters (column 9, lines 56-67, where the synchronization manager is coupled to sync providers, seen as adaptors since they interface with certain types of file stores, and the synchronization manager provides services to the providers as described in column 10, lines 25-30), wherein the services provided by the sync runtime module to each of the one or more sync adapters include change enumeration (column 10, lines 25-30, where the synchronization manager provides the providers with methods to notify the manager regarding changes to an object store, seen as change enumeration); and a sync controller that instantiates a particular sync adapter such that the particular sync adapter can use the services to synchronize a first replica in the sync community with a second replica (column 13, lines 57-63, where the user places files and directories in a folder in order to use the synchronization system).

Regarding **claim 2**, Alam et al. anticipates a framework as defined in claim 1, wherein the services provided by sync runtime module are accessed by the one or more sync adapters using an applications programming interface (column 10, lines 1-8).

Regarding **claim 3**, Alam et al. anticipates a framework as defined in claim 1, wherein the services further comprises a change enumeration service that compares knowledge of the first replica with knowledge of the second replica to enumerate

changes (column 11, lines 44-65, with the reference handle corresponding to the knowledge of the first replica and the retrieved handle from the providers corresponding to the knowledge of the second replica, and these are compared to provide change enumeration).

Regarding **claim 4**, Alam et al. anticipates a framework as defined in claim 3, wherein the services further comprises a conflict detection service that uses the knowledge of the first replica and the knowledge of the second replica to detect conflicts (column 13, lines 6-19, with a conflict situation arising based on knowledge of the replicas).

Regarding **claim 5**, Alam et al. anticipates a framework as defined in claim 4, wherein the conflict detection service detects a conflict when a change enumerated by the first replica is not in the knowledge of the second replica and a change enumerated by the second replica is not in the knowledge of the first replica (column 13, lines 18-19, with a conflict situation arising based on the replicas, and the change is not known to either the first knowledge or second knowledge, equivalent to having the same object changed on both replicas, since the change would not be enumerated and synchronized at both replicas).

Regarding **claim 6**, Alam et al. anticipates a framework as defined in claim 4, wherein the conflict detection service further comprises a conflict resolution module (column 13, lines 18-35, where the conflict is resolved based on a certain method).

Regarding **claim 7**, Alam et al. anticipates a framework as defined in claim 6, wherein the conflict resolution module can implement a conflict policy identified in a

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profile or included in a pluggable conflict resolution module (column 13, lines 18-35, with the conflict resolution being based in either the registry, seen as a profile setting, since it gives the manager instructions on how to proceed, or as a user option, seen as a pluggable resolution, since options are provided to the user and this can change on each conflict).

Regarding **claim 8**, Alam et al. anticipates a framework as defined in claim 1, further comprising a profile that includes one or more parameters, wherein the sync controller configures the particular sync adapter using the one or more parameters in the profile (column 13, lines 19-28, where the user, seen as the sync controller, can configure options to be set in the registry, seen as a profile, the profile as the parameter for conflict resolution, and this resolution policy can configure the sync adapters in the presence of a conflict).

Regarding **claim 9**, Alam et al. anticipates a framework as defined in claim 8, wherein the profile identifies one or more of (a profile is interpreted here as being information that pertains to the synchronization of a replica): a source folder of the first replica; a destination folder of the first replica; a source folder of the second replica; a destination folder of the second replica (column 11, lines 18-20, with path names being stored for replicas); a first filter to filter the changes that are enumerated at the first replica; a second filter to filter the changes retrieved from the second replica (column 11, lines 33-37, with time stamp information being used to date the files and filter them by comparing them to each other); a transformation for converting an item from the second replica to a format of the first replica (column 18, lines 62-67, with format

converters being registered in the OS, seen as part of a profile); and a conflict resolution policy (column 13, lines 19-28, where the conflict resolution policy is set in the registry, seen as part of the entire profile).

Regarding **claim 10**, Alam et al. anticipates a framework as defined in claim 1, wherein the services further comprises one or more of: an item ID matching service, wherein item IDs of the second replica are provided by the particular adapter during a receive sync and item IDs of the first replica are provided by the sync runtime module during a send sync (column 11, lines 6-21, where the handles include an ID number, which is used during synchronization); a sync interruptability service that includes exceptions in a remote knowledge (column 19, lines 48-64, where the exclusion list contains objects not to be synchronized); and a service that prevents changes from reflecting to and from the first replica (column 17, lines 1-20, where the system can monitor changes in the remote device and prevent synchronization loops).

Regarding **claims 11 and 12**, Alam et al. anticipates a framework as defined in claim 1 or claim 11, wherein the services further comprises a sync metadata management service that stores a remote knowledge, as required by claim 11, or a local knowledge, as required by claim 12, for the particular adapter (column 11, lines 44-61, where the sync manager obtains two list of handles, one is a remote knowledge provided to it by the providers regarding the current state of the objects, and the other is a local knowledge gathered from the reference store pertaining to the objects' last synchronization, where metadata is interpreted as data pertaining to synchronization information).

Regarding **claims 13 and 23**, Alam et al. anticipates a method, as required by claim 13, and a computer program product for implementing a method for synchronizing a replica with one or more back end replicas, the computer program product comprising: a computer-readable medium having computer executable instructions for performing the method, the method comprising, as required by claim 23 (column 4, lines 28-36): for synchronizing a replica with one or more back end replicas (Abstract), the method comprising: initiating a particular adapter using one or more parameters included in a sync profile (Figure 7A, where sync initiation is performed by retrieving handles in section 162, the handles seen here as being a part of a large profile since they include sync information and parameters as seen in column 11, lines 14-37. The adaptors are seen as providers that adapt each type of file to the other device, as seen in column 10, lines 57-62 and the handles correspond to the particular adaptors as seen in column 11, lines 44-61. To explain, handles, seen as part of a profile including parameters, are used to retrieve information regarding synchronization, and synchronization is performed via providers, seen as adapters, since they adapt and interface with each object store type in order for the synchronization manager to use the stores), wherein the particular adapter uses the one or more parameters to synchronize a first replica with a second replica (column 11, lines 62-65, and column 13, lines 6-17, with synchronization being performed from information retrieved from the adaptors, or providers); receiving a request from the particular adapter to enumerate changes on the first replica by comparing a knowledge of the first replica with a knowledge of the second replica (column 11, lines 44-61, with list being created to compare changes

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made to handles on both replicas); and detecting conflicts by determining whether a change enumerated by the first replica is included in the knowledge of the second replica and whether the change at the second replica is included in the knowledge of the first replica (column 13, lines 6-19, with knowledge of the devices' information being used to compare changes).

Regarding **claims 14 and 24**, Alam et al. anticipates a method as defined in claim 13 or a computer program product as described in claim 23, wherein initiating a particular adapter using one or more parameters included in a sync profile further comprises defining the sync profile (column 11, lines 4-17, with the handles being defined after every sync, thereby always creating a profile to work off of during future synchronizations).

Regarding **claims 15 and 25**, Alam et al. anticipates a method as defined in claim 14 or a computer program product as described in claim 24, wherein defining the sync profile further comprises one or more of (a profile is interpreted here as being information that pertains to the synchronization of a replica): specifying a sync direction (column 13, lines 18-28, with conflict policy determined by the profile, and the policy can specify sync direction in the event of a conflict); identifying a particular adapter (column 13, lines 57-63, with the user placing an object to be synchronized in the file object store, which is a provider, seen as a particular adapter, and the provider maintains the handles as seen in column 10, lines 57-59, the handles being a part of the sync profile); identifying a source folder and a destination folder on the first replica; identifying a source folder and a destination folder on the second replica (column 11, lines 18-20,

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with path names being stored for replicas); and including a conflict policy (column 13, lines 19-28, where the conflict resolution policy is set in the registry, seen as part of the entire profile).

Regarding **claims 16 and 26**, Alam et al. anticipates a method as defined in claim 13 or a computer program product as described in claim 23, wherein receiving a request from the particular adapter to enumerate changes on the first replica by comparing a knowledge of the first replica with a knowledge of the second replica further comprises receiving a request for a service provided by a sync runtime (column 9, lines 56-67, where the synchronization manager is coupled to sync providers, seen as adaptors since they interface with certain types of file stores, and the synchronization manager provides services to the providers as described in column 10, lines 25-30, thus a request made from the adaptor is a request for a service provided by a sync runtime, the sync runtime being the synchronization manager).

Regarding **claims 17 and 27**, Alam et al. anticipates a method as defined in claim 16 or a computer program product as described in claim 26, wherein receiving a request for a service provided by a sync runtime further comprises providing the requested service (column 10, lines 25-30, where the synchronization manager provides the providers with methods to notify the manager regarding changes to an object store, thus the change enumeration service is provided).

Regarding **claims 18 and 28**, Alam et al. anticipates a method as defined in claim 17 or a computer program product as described in claim 27, wherein providing the requested service further comprises managing sync metadata by performing one or

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more of: storing a state of the synchronization for the particular adapter; storing local knowledge for the second replica; and storing a remote knowledge of the second replica (column 11, lines 44-61, where the sync manager obtains two list of handles, one is a remote knowledge provided to it by the providers regarding the current state of the objects, and the other is a local knowledge gathered from the reference store pertaining to the objects' last synchronization, where metadata is interpreted as data pertaining to synchronization information, and column 11, lines 6-9, where the handles are updated to maintain current synchronization information, seen as the state of the synchronization).

Regarding **claims 19 and 29**, Alam et al. anticipates a method as defined in claim 17 or a computer program product as described in claim 27, wherein providing the requested service further comprises mapping an item ID of the first replica with an item ID of the second replica, wherein the particular adapter provides the item ID of the second replica in a receive sync and wherein the sync runtime provides the item ID of the second replica during a send sync (column 11, lines 6-21, where the handles include an ID number, which is used during synchronization).

Regarding **claims 20 and 30**, Alam et al. anticipates a method as defined in claim 17 or a computer program product as described in claim 27, wherein providing the requested service further comprises including exceptions in a remote knowledge such that items corresponding to the exceptions are not synchronized in future synchronizations (column 19, lines 48-64, where the exclusion list contains objects not to be synchronized).

Regarding **claims 21 and 31**, Alam et al. anticipates a method as defined in claim 13 or a computer program product as described in claim 23, further comprising preventing a change from being reflected between the first replica and the second replica using the knowledge of the first replica and the knowledge of the second replica (column 17, lines 1-20, where the system can monitor changes in the remote device and prevent synchronization loops).

Regarding **claims 22 and 32**, Alam et al. anticipates a method as defined in claim 13 or a computer program product as described in claim 23, further comprising: sending changes enumerated at the first replica to the second replica (column 5, lines 19-25, with the act of updating the data so both instances are up to date must include sending changes from replica to replica); receiving changes enumerated by the second replica (column 5, lines 19-25, with the act of updating the data so both instances are up to date must include receiving changes from replica to replica); applying changes enumerated by the second replica at the first replica (column 5, lines 19-25, with the act of updating the data so both instances are up to date must include modifying the data objects to reflect their current modification); and updating the knowledge of the first replica (column 5, lines 19-25, with the act of updating the data so both instances are up to date must include achieving a synchronized state in which both replicas are current).

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Veghte et al. (US 5,845,293) describes computer-to-computer synchronization with conflict resolution and synchronization status.

Falls et al. (US 5,991,771) describes file transaction synchronization with logs and conflict handling.

Kruglikov et al. (US 6,505,215) describes computer synchronization with user profile settings.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Adam S. Weintrop whose telephone number is 571-270-1604. The examiner can normally be reached on Monday through Friday 7:30am-5:00pm.

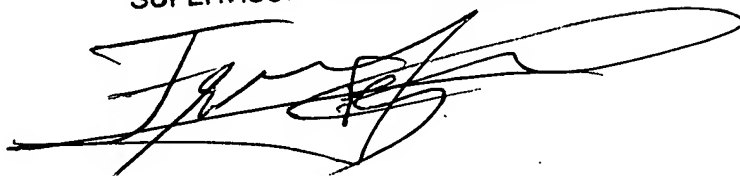
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frantz Jules can be reached on 571-272-6681. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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AW 4/3/07

FRANTZ JULES
SUPERVISORY PATENT EXAMINER

A handwritten signature in black ink, appearing to read 'Frantz Jules', is written over the printed name and title.